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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/629,632	07/30/2003	Minoru Kikuchi	241063US2S	9120
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OBLON, SPIVAK, MCCLELLAND, MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314			EXAMINER STREGE, JOHN B	
			ART UNIT 2624	PAPER NUMBER
			NOTIFICATION DATE 08/23/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/629,632

Applicant(s)

KIKUCHI, MINORU

Examiner

John B. Strege

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 05 July 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-7 and 9-12 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,4-7 and 10-12 is/are rejected.
- 7) ☒ Claim(s) 3 and 9 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- 1) ☒ Certified copies of the priority documents have been received.
 - 2) ☐ Certified copies of the priority documents have been received in Application No. _____.
 - 3) ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Response to Amendment

1. The amendment received 7/5/07 has been entered in full.

Response to Arguments

2. Applicants arguments regarding the USC 112 rejections have been considered and are persuasive, thus the 112 rejections are withdrawn. Applicant's arguments regarding the art rejections have been fully considered but they are not persuasive. Specifically the Applicant argues that Kato does not disclose or suggest extracting "as an object area, a set of pixels from which an object has been sensed over at least M ($M < N$) of N successive frames including the present frame". The Examiner respectfully disagrees. Specifically in order to read on this limitation Kato merely needs to disclose 2 frames ($N=2$) and extracting an object for 1 of the frames ($M=1$). Specifically in the English abstract of Kato there is disclosed an extracting method (extracting an object area) wherein the object is sensed over successive frames (the obtained centroids are compared to extract the movement speed in accordance with the movement direction of the object and the time intervals of picture taking-in [which reads on multiple frames]). The machine translation of Kato at paragraphs [0008]-[00013] provide further detail to this process. Thus Kato discloses all of the limitations of claim 1 and the rejection is maintained.

Regarding the challenging of Official Notice used by the Examiner in the previous office action, the Examiner will herein provide a reference to support their taking of Official Notice. However, as these references only serve to support the Official Notice taken by the Examiner the action will be made final.

Claim Rejections - 35 USC § 102

3. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1,4,7,10 rejected under 35 U.S.C. 102(b) as being anticipated by Kato (Japanese Pub No 05-284501, see attached machine translation):

Regarding claim 1, Kato discloses a method for monitoring an area comprising capturing a plurality of successive frames of an object, extracting from a current frame the pixels corresponding to the object, as disclosed at paragraphs 8-13, which reads on "an object area extracting unit configured to extract, as an object area, a set of pixels from which an object has been sensed over at least M ($M < N$) of N successive frames including the present frame", wherein $M=1$, determining the center-of-gravity of the object, as disclosed at paragraph 15, which reads on "a center-of-gravity computing unit configured to calculate the center-of-gravity position coordinates of the extracted object area in the photographic field", comparing the center-of-gravity of the object in the current frame to the center-of-gravity of the object in a previous frame in order to determine the passing speed of the object, as disclosed at paragraph 15, which reads on "a velocity computing unit configured to calculate the object velocity from the movement of the calculated center-of-gravity position coordinates between different frames".

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Regarding claim 4, Kato discloses everything as applied above (see claim 1). Kato further discloses detecting the object in the current frame by binarizing the frame by using a binarization threshold, as disclosed at paragraphs 8-13, which reads on "further comprising a binarizing unit configured to binarize each pixel in the photographic frames on the basis of a specified threshold value related to its luminance".

Regarding claim 7, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 1.

Regarding claim 10, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 4.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 5, 6, 11, and 12 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of Christian et al. USPN 6,400,830 (hereinafter "Christian", cited in the prior office action).

Regarding claims 5-6, Kato discloses everything as applied above (see claim 1). Kato further discloses wherein the passing speed of the object is calculated based on not only the movement of the center-of-gravity of the object but also based on the movement of the camera, thereby computing a relative velocity, as disclosed at

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paragraph 15, but fails to specifically disclose where the actual velocity of an object is calculated by ' multiplying the relative velocity of the object by the distance to the object.

Christian discloses a technique for tracking objects through a series of images (col. 1 lines 10-15). Specifically Christian discloses that from a proportional relation between distance and velocity a relative velocity can be obtained (col. 15 lines 42-56).

Kato and Christian are analogous art because they are from the same field of endeavor of determining the velocity of an object.

At the time of the invention it would have been obvious to one of ordinary skill in the art to combine Kato and Christian to calculate a relative velocity between the device and the object as disclosed by Christian. The motivation would be for knowing and using the actual velocity of the object. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to combine Kato and Christian to obtain the invention of claims 5-6.

Regarding claim 11, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 5.

Regarding claim 12, it is interpreted and thus rejected for the same reasons as applied above in the rejection of claim 6.

6. Claims 2 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kato in view of Kondo (US Patent No 6,766,059).

Regarding claim 2, Kato discloses everything as applied above (see claim 1). However, Kato fails to specifically disclose where the object is separated into a plurality

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of segments and wherein the center-of-gravity of the object is determined by a weighted mean of the center-of-gravity of each segment. However the examiner maintains that it was well known in the art to provide for where an object is separated into a plurality of segments and wherein the center-of-gravity of the object is determined by a weighted mean of the center-of-gravity of each segment, as taught by Kondo.

In the same field of endeavor, Kondo discloses a method for extracting the foreground in a plurality of frames comprising dividing a foreground into a plurality of classes (k), calculating the number of pixels in each class, thereby getting the area, in pixels, of each class, finding the center-of-gravity for each class, and finding the center-of-gravity of the entire foreground by finding the weighted average of the center-of-gravity of the plurality of classes wherein the number of pixels in each class (area) is used as weights, as disclosed at column 16 line 40-57.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made, to modify Kato, by providing for where the object is separated into a plurality of segments and wherein the center-of-gravity of the object is determined by a weighted mean of the center-of-gravity of each segment, as taught by Kando, for the purpose of determining the center-of-gravity and then velocity of an object that has multiple segments.

Allowable Subject Matter

7. Claims 3 and 9 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

8. **THIS ACTION IS MADE FINAL.** The use of the Christian reference was made in response to a challenge of official notice. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Contact Information

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John B. Strege whose telephone number is (571) 272-7457. The examiner can normally be reached on Monday-Friday between the hours of 8-5.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Bhavesh Mehta can be reached on (571) 272-7453. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

JS


ISHRAT SHERALI
PRIMARY EXAMINER

8-18-07